NASA-CR-196942

Columbia University in the City of New York

FINAL REPORT

PRELIMINARY CONCEPT STUDY OF X-RAY INTERFEROMETER NAG8-917

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Principal acomplishments were:

- Definition of a new x-ray interformeter mission concept using technology within reach of the next few decades of development.
- Demonstration of concept using an optical analog system.
- Simulation of optical performance requirements of x-ray mirrors and gratings.
- Simulation of imaging performance of x-ray interferometer concept.
- Preliminary budgeting of tolerance requirements for system performance. Control tolerances are comparable to those being contemplated for space-borne optical interferometers.
- Identification of key spacecraft system requirements in these areas was begun, although considerable work remains that will require a much more substantial grant. Key spacecraft areas to study are:

  -> Thermal control
  -> Attitude control
  -> Structural design & mechanical jitter

IT SHOULD BE NOTED THAT FUTURE EFFORTS IN THIS AREA SHOULD BE CLOSELY COUPLED WITH STUDIES OF OPTICAL SPACE-BORNE INTERFERMETERS, AS THE ISSUES ARE CLOSELY COUPLED.

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Unclas

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